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Guaranteed, exactly once delivery of messages is disclosed. In one embodiment, there is a sender and a receiver. In a sender transaction, the sender does the following: receives a message from a sender queue; generates a substantially unique identifier and an expiration time for the message; and, saves the identifier, the expiration time, and the message in a sender database. The sender then sends the identifier, the expiration time, and the message to the receiver. In a receiver transaction, the receiver then does the following: receives the identifier, the expiration time, and the message from a receiver queue; determines whether the message has expired based on the expiration time and determines whether the message is present in a receiver database by its identifier; and, upon determining that the message has not expired and is not present in the receiver database, stores the message in the receiver database, and performs actions associated with the message.

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to addressee" service under 37 CFR § 1.10 in an envelope addressed to The Assistant Commissioner for Patents, Washington, DC 20231, on Feb 28, 2000, by Michael Dryja, and having "express mail" mailing label no.

Signature of Michael Dryja

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